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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,043	12/15/2003	Lester F. Ludwig		4752

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EXAMINER

WARREN, DAVID S

ART UNIT	PAPER NUMBER
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2832

NOTIFICATION DATE	DELIVERY MODE
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08/19/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/737,043

Applicant(s)

LUDWIG, LESTER F.

Examiner

DAVID S. WARREN

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-117 and 119 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,46-52,62,64,84-86,91-93,103,105,112,119 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-848)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims withdrawn from consideration are 3,5-45,53-61,63,65-83,87-90,94-102,104,106-111 and 113-117.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 112, and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by Adinolfi (5929355). Adinolfi discloses the use of plurality of individual modules (see “percussion instruments” in Abstract), a separate mounting frame (fig. 1) wherein the modules may be exchangeably mountable in each of a plurality of mounting locations (drums may be mounted in any location of element 13), and at least one instrument interface (fig.2).

3. Claims 1, 112, and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by Lauts (D475555). Lauts shows the use of plural modules, a separate mounting frame wherein the modules may be exchangeably mounted, and in interface (inherent in any electronic keyboard, e.g., an amplifier). (Please note that the independent claims would read on any multiple keyboard support).

4. Claims 1, 112, and 119 are rejected under 35 U.S.C. 102(b) as being anticipated by Battle (5063821). Battle shows plural modules (18, 19, 20), a mounting frame wherein the modules may be exchangeably mounted, and an interface (fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4, 46, 47, 112, and 119 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,691,490) in view of Aitken et al. (4,658,690). Regarding claims 1, 112, and 119, Williams discloses the use of customizable (col. 4, lines 12 – 16) aggregated instrument comprising a plurality of individual musical modules (20, 30) which generate electrical signals (col. 4, 4th paragraph), a separate mounting frame (col. 3, lines 11 – 16), a means for securing in a reconfigurable mounting arrangement (fig. 3; col. 2, lines 10 – 14), wherein each module is exchangably mounted with respect to each other (with only two modules, “exchangably mounted” would mean, for the Williams device, placing the keyboard above the stringed instrument and the stringed instrument below the keyboard, the Examiner maintains that this feature is functionally equivalent to merely turning the Williams device so as to place the keyboard on top - while this may appear to be an overly broad interpretation, it must be remembered that this is a common procedure for guitarists to change, say, a right handed guitar to a left handed instrument. It should also be noted that the keyboard of Williams may be mounted in a reverse direction which would accommodate such a rotation), within any of a plurality of mounting locations (in this new

interpretation, the "top" and "bottom" are deemed to be mounting locations), and a means for transmitting interface signals to an external system (col. 4, 4th paragraph). Williams discloses that the keyboard (a music module) is readily positionable with respect to mounting frame 40. Aitken shows strings 40 readily positionable with respect to mounting frame 20. Certainly it would have been obvious to one of ordinary skill in the art to make both modules (strings and keyboard) readily positionable with respect to a mounting frame. The motivation would be to allow greater adjustability. Regarding claim 2, the frame 40 has a linear arrangement (fig. 3). Regarding claim 4, the lower bout of the stringed instrument is curved, giving the upper edge of 40 a curve (fig. 5). Regarding claims 46 and 47, elements 26 are strings of module 20. Williams does not explicitly disclose that each module is readily positionable within a plurality of mounting locations of the mounting frame. Williams clearly shows a keyboard that is readily positionable mounted with a neck board. Aitken discloses the use of music modules (22, 40, 50, 70) having a keyboard (70) and a readily positionable neck board (22; col. 23, lines 21 – 28). It would have been obvious to one of ordinary skill in the art to combine the teachings of Williams and Aitken to obtain an aggregated instrument wherein each of the modules is readily positionable with respect to a mounting frame. The motivation for making this combination would be to provide a user with the flexibility to position the module in the most comfortable position to allow easy fingering.

7. Claims 48 – 52, 62, 64, 84 – 86, 91 – 93, 103, and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams in view of Aiken and in further view of Tumura (5,585,588). The teachings of Williams and Aiken have been discussed

supra with respect to independent claims 1 and 112. Regarding claim 48, Williams nor Aiken teach the use of an unfretted neck. However, Williams does teach the use of including “all types of electric guitars” – this would, include the very common fretless bass guitar. One of ordinary skill in the art would have thought to provide Williams with an unfretted neck. The motivation for making this combination would be to provide those musicians who favor a fretless bass guitar the opportunity to utilize the invention (and thus the keyboard) as shown in Williams. Regarding claim 49, Williams nor Aiken explicitly teach the use of sympathetic strings. The Examiner maintains that *all* strings are sympathetic, thus Williams would show a “plurality of sympathetic strings.”

However, Tumura explicitly teaches that strings of an instrument can vibrate sympathetically (col. 1, lines 44 – 51). (The Examiner also notes that stringed instruments having separate sympathetic strings – i.e., those not meant to be strummed or plucked – have been in existence for thousands of years, such as sitars.) Regarding claim 50, Williams nor Aiken teach the use of a drive transducer to stimulate vibration. Tumura discloses a drive transducer (17; col. 17, lines 7 – 15) to provide stimulation to the vibrating element. It would have been obvious to one of ordinary skill in the art to combine the teachings of Williams, Aiken and Tumura to obtain an aggregated instrument having an unfretted neck, sympathetic strings, and a driver for stimulating vibration. The motivation for making this combination is that each of these elements offers a unique and interesting sound, and any musician who appreciates these sounds would be motivated to provide them into the Williams invention. Regarding claim 51, Williams does not show a electronic controller module secured within one of the plurality

of mounting locations. However, Williams does teach the use of “convention electronics downstream of the pickups 28 are provided, viz., one or more synthesizers, MIDI's and computer(s) depending on the wishes of the musician/sound engineer, together, of course, with suitable amplifiers and speakers” (col. 4, 4th paragraph). Also see Aiken's fig. 4). The Examiner notes that “downstream of the pickups” may include a location on the instrument body as is common with virtually all commercially available electric guitars (i.e., volume and/or tone controls). It would have been obvious to one of ordinary skill to provide Williams with a “electronic controller module.” The motivation for making this addition would be to allow a user to change her volume while playing the instrument. Regarding claims 52, 62, 64, the use of keyboards, sliders, and impact sensors are notoriously well-known in the electronic music art and Official Notice is hereby taken (e.g., DSP remotes with keys are frequently mounted to guitars, sliders are often used on guitars as volume controls, and impact sensors are frequently used to trigger MIDI devices). Regarding claims 84 – 86, 91 – 93, 103 and 105 all limitations have been discussed supra except the hierarchical modules using “small-scale” modules. The Examiner maintains that a mere variation in size is not a patentable feature. For example, a small module within a module is still a module. For the Applicant to define “small-scale” module in some kind of hierarchical relation is deemed to be arbitrary. For the purposes of this rejection, the Examiner is interpreting the modules (20, 30) of Williams to be “small-scale” and the Williams' instrument as a whole to be a “mounting location.”

8. Claims 84 – 86, 91 – 93, 103, and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams and Aiken in view of Tumura (5,585,588) and in further view of Norton (5,994,633). The teachings of Williams, Aiken and Tumura have been discussed supra. As stated supra, the Examiner maintains that “small-scale” does not constitute a patentable limitation. However, to strengthen the Examiner’s position, the following rejection is put forth: Regarding claim 84, neither Williams, Aiken nor Tumura disclose a small-scale module (interpreted here as a “module within a module”). Norton discloses a control module (132) having plural and separate controls (134) within the control module (132). The Examiner is defining these controls (134) as “small-scale” modules within a module (132), i.e., a module within a module. Regarding claims 85, 86, 91 – 93, 103, and 105 all limitations have been previously discussed. It would have been obvious to one of ordinary skill in the art to combine the teachings of Norton with those of Williams, Aiken and Tumura. The motivation for making this modification would be to allow a musician with plural controls to augment and/or enhance the musicians music (e.g., to provide control of both tone and volume, or both pickup phase and pickup selection, etc.).

Response to Arguments

The Applicant argues that the prior art to Sagen fails to show all the features of Applicant's invention (as newly amended). The Examiner concurs. The rejection based on Sagen has been withdrawn. This argument is now moot.

The Applicant argues that Williams nor Aitken show plural modules exchangeably mounted in each of a plurality of mounting locations. As stated supra, with only two modules, this "exchange" would result in placing the keyboard above the strings. The Examiner maintains that this would be functionally equivalent to merely turning the Williams instrument in such a way as to place the keyboard above the strings. And, also as stated supra, this is a very common procedure to provide, say, a left handed musician with an instrument designed for a right handed player.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Notice of References Cited (PTO form 892).
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

/David S. Warren/

Primary Examiner, Art Unit 2832